

1. Description

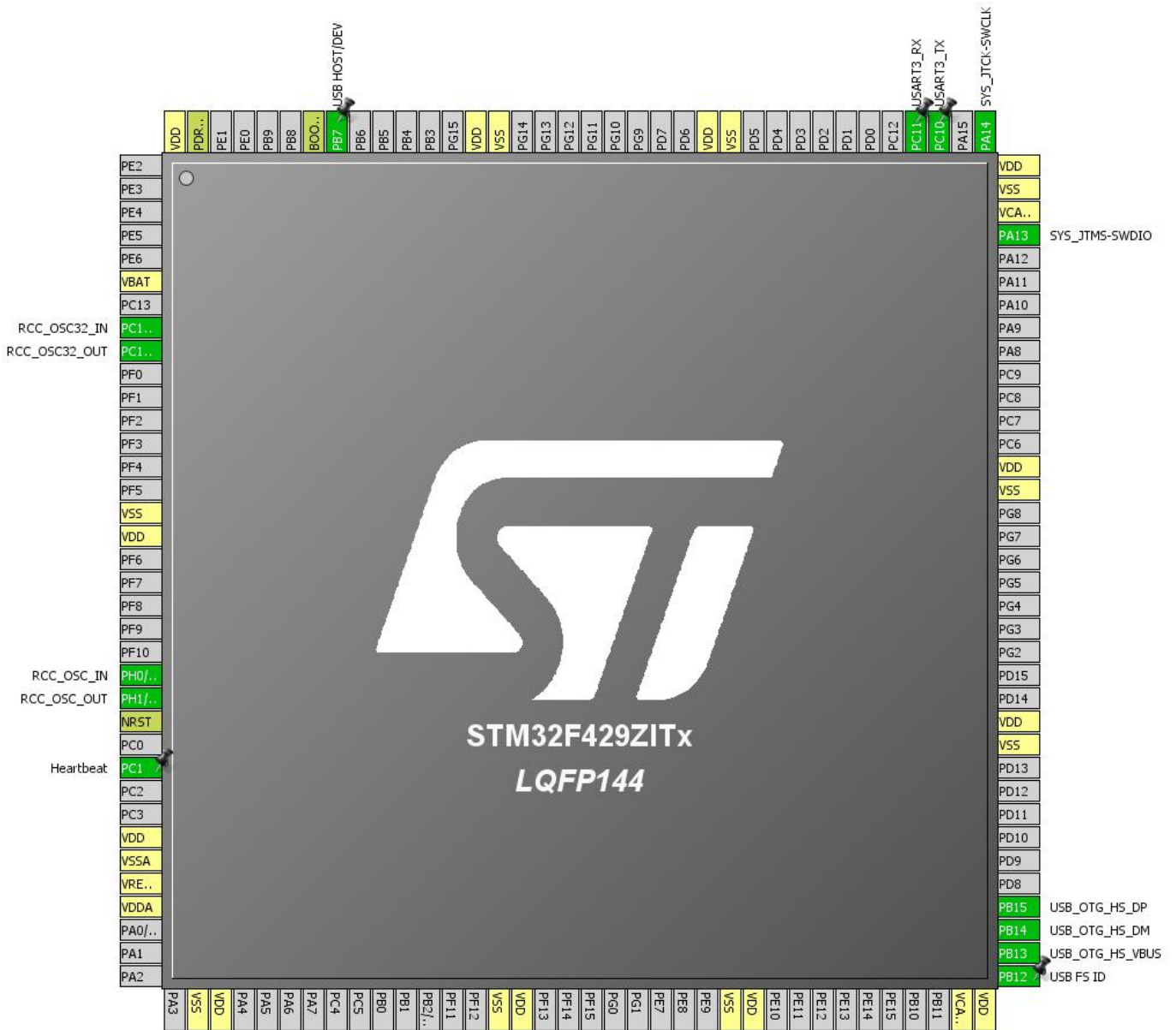
1.1. Project

Project Name	STM32F429ZITx_cube_reference
Board Name	STM32F429ZITx_cube_reference
Generated with:	STM32CubeMX 4.16.0
Date	08/11/2016

1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F429/439
MCU name	STM32F429ZITx
MCU Package	LQFP144
MCU Pin number	144

2. Pinout Configuration



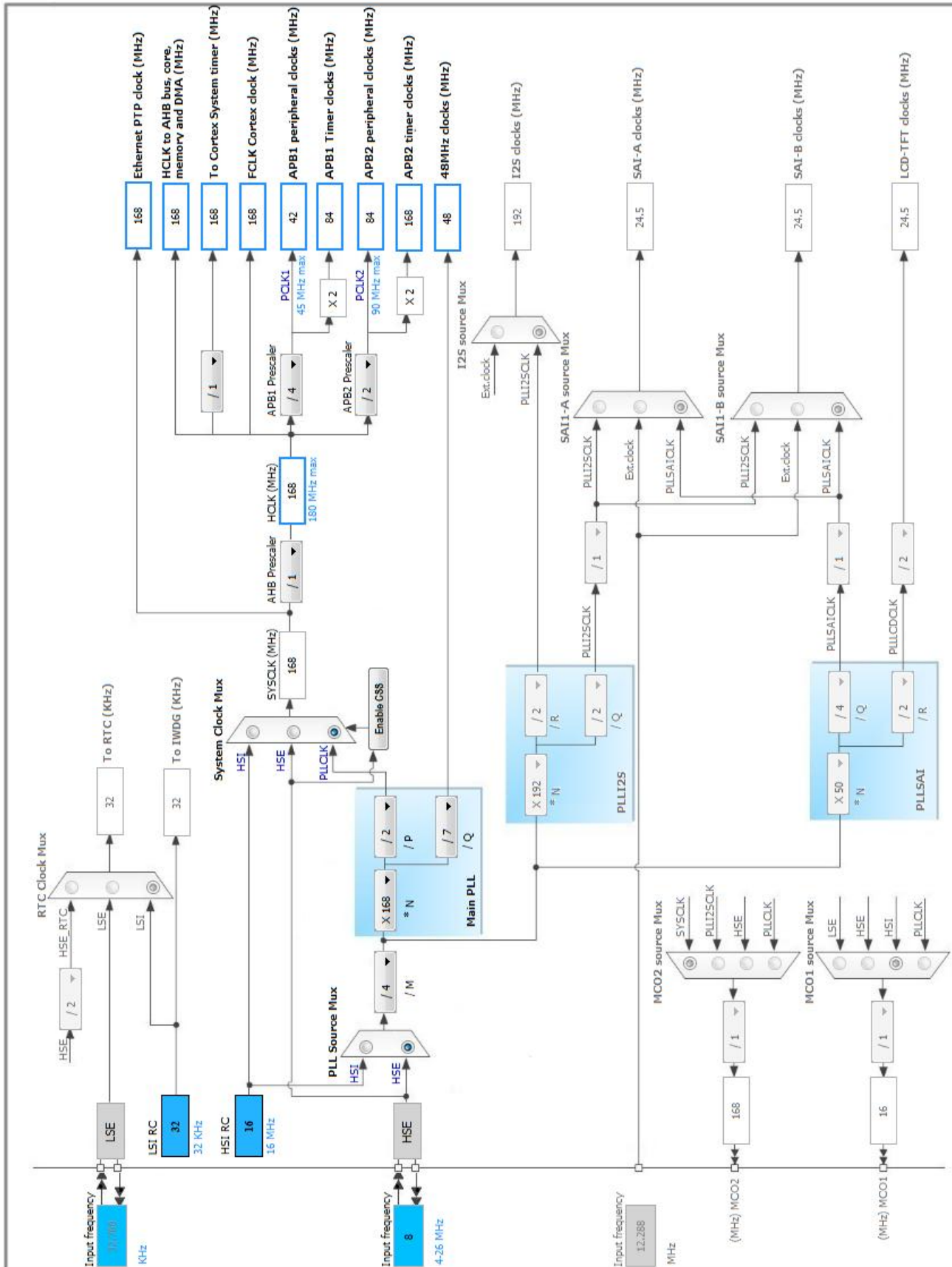
3. Pins Configuration

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
8	PC14/OSC32_IN	I/O	RCC_OSC32_IN	
9	PC15/OSC32_OUT	I/O	RCC_OSC32_OUT	
16	VSS	Power		
17	VDD	Power		
23	PH0/OSC_IN	I/O	RCC_OSC_IN	
24	PH1/OSC_OUT	I/O	RCC_OSC_OUT	
25	NRST	Reset		
27	PC1 *	I/O	GPIO_Output	Heartbeat
30	VDD	Power		
31	VSSA	Power		
32	VREF+	Power		
33	VDDA	Power		
38	VSS	Power		
39	VDD	Power		
51	VSS	Power		
52	VDD	Power		
61	VSS	Power		
62	VDD	Power		
71	VCAP_1	Power		
72	VDD	Power		
73	PB12 *	I/O	GPIO_Output	USB FS ID
74	PB13	I/O	USB_OTG_HS_VBUS	
75	PB14	I/O	USB_OTG_HS_DM	
76	PB15	I/O	USB_OTG_HS_DP	
83	VSS	Power		
84	VDD	Power		
94	VSS	Power		
95	VDD	Power		
105	PA13	I/O	SYS_JTMS-SWDIO	
106	VCAP_2	Power		
107	VSS	Power		
108	VDD	Power		
109	PA14	I/O	SYS_JTCK-SWCLK	
111	PC10	I/O	USART3_TX	
112	PC11	I/O	USART3_RX	

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
120	VSS	Power		
121	VDD	Power		
130	VSS	Power		
131	VDD	Power		
137	PB7 *	I/O	GPIO_Output	USB HOST/DEV
138	BOOT0	Boot		
143	PDR_ON	Reset		
144	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

Low Speed Clock (LSE) : Crystal/Ceramic Resonator

5.1.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled
Flash Latency(WS)	5 WS (6 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
TIM Prescaler Selection	Disabled
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1
Power Over Drive	Disabled

5.2. SYS

Debug: Serial Wire

Timebase Source: SysTick

5.3. USART3

Mode: Asynchronous

5.3.1. Parameter Settings:

Basic Parameters:

Baud Rate	115200
Word Length	8 Bits (including Parity)
Parity	None

Stop Bits 1

Advanced Parameters:

Data Direction Receive and Transmit
Over Sampling 16 Samples

5.4. USB_OTG_HS

Internal FS Phy: Host_Only
mode: Activate_VBUS

5.4.1. Parameter Settings:

Speed Host Full Speed 12MBit/s
Enable internal IP DMA Disabled
Physical interface Internal Phy

5.5. USB_HOST

Class for HS IP: Human Interface Host Class (HID)

5.5.1. Parameter Settings:

Host Configuration:

USBH_MAX_NUM_ENDPOINTS (Maximum number of endpoints)	4 *
USBH_MAX_NUM_INTERFACES (Maximum number of interfaces)	2
USBH_MAX_NUM_SUPPORTED_CLASS (Maximum number of supported class)	1
USBH_MAX_NUM_CONFIGURATION (Maximum number of supported configuration)	1
USBH_KEEP_CFG_DESCRIPTOR (Keep the configuration into RAM)	Enabled
USBH_MAX_SIZE_CONFIGURATION (Maximum size in bytes for the Configuration Descriptor)	256
USBH_MAX_DATA_BUFFER (Maximum size of temporary data)	512
USBH_DEBUG_LEVEL (USBH Debug Level)	3: All messages and internal debug messages are shown *

CMSIS_RTOS:

USBH_USE_OS (Enable the support of an RTOS) Disabled

* User modified value

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
RCC	PC14/OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15/OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	
	PH0/OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1/OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
USART3	PC10	USART3_TX	Alternate Function Push Pull	Pull-up	Very High *	
	PC11	USART3_RX	Alternate Function Push Pull	Pull-up	Very High *	
USB_OTG_HS	PB13	USB_OTG_HS_VBUS	Input mode	No pull-up and no pull-down	n/a	
	PB14	USB_OTG_HS_DM	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PB15	USB_OTG_HS_DP	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
GPIO	PC1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Heartbeat
	PB12	GPIO_Output	Output Push Pull	Pull-down *	Low	USB FS ID
	PB7	GPIO_Output	Output Push Pull	Pull-down *	Low	USB HOST/DEV

6.2. DMA configuration

nothing configured in DMA service

6.3. NVIC configuration

Interrupt Table	Enable	Preenmption Priority	SubPriority
Non maskable interrupt	true	0	0
Hard fault interrupt	true	0	0
Memory management fault	true	0	0
Pre-fetch fault, memory access fault	true	0	0
Undefined instruction or illegal state	true	0	0
System service call via SWI instruction	true	0	0
Debug monitor	true	0	0
Pendable request for system service	true	0	0
System tick timer	true	0	0
USB On The Go HS End Point 1 Out global interrupt	true	0	0
USB On The Go HS End Point 1 In global interrupt	true	0	0
USB On The Go HS global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USART3 global interrupt	unused		
FPU global interrupt	unused		

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F429/439
MCU	STM32F429ZITx
Datasheet	024030_Rev8

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	STM32F429ZITx_cube_reference
Project Folder	C:\STM32\CubeMX\STM32F429ZITx_cube_reference
Toolchain / IDE	TrueSTUDIO
Firmware Package Name and Version	STM32Cube FW_F4 V1.13.0

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	Copy only the necessary library files
Generate peripheral initialization as a pair of '.c/.h' files	No
Backup previously generated files when re-generating	No
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	No